Kevin Caste

Period 3

Section 1- Circuit

Question 1- To turn electrical devices on and off without affecting other electrical devices you could use switches or a parallel circuit. A switch would allow you to turn off the appliance that you are not using and turn on the appliance that you are or are going to use. A parallel circuit would allow you to separate the electrical devices and appliances into different circuits using only the necessary electrical device you need. With out wasting energy of the appliance that we do not need, the current of the circuit would only go to the device you need, as oppose to a series circuit witch would force you to use all of the electrical devices that are apart of that circuit.

Question 2- The amount of current in our homes will increase when the number of parallel circuits increase because the more parallel circuits there are in a home, the more current is produced in the household. The energy, or voltage will also increase because the flow of the circuit will increase causing energy to increase. The resistance will decrease because as the current and voltage increase the resistance will not.

Question 3- When too many electrical devices are hooked up to one circuit the fuse will blow. The fuse blows when the circuit is overloaded with devices. This occurs when the current exceeds the load limit. The load limit is the maximum current that a circuit can hold. A circuit breaker is when the circuit blows. When the current reaches the load limit he metal bends and stops the flow of the current, which then leads the fuse to blow.

Section 2- Energy

Question 1- The kitchen lights and the clothes dryer were most expensive devices per hour. I found the power rating for my home in watts, the power in kilowatts, then got the time used per week in hours and multiplied it by the power rating in kilowatts. I then multiplied the answer and multiplied it by point ten to find the cost per week.

Question 2- The kitchen lights used the most energy per year because it had the most power in kilowatt-hours. This also shows that the voltage and current were the highest. When there is a lot of energy consumed it also means that it used a lot of volts to power the electric appliance or device. The current can also show the energy that and electric appliance or device uses by showing the current of the device or appliance and the amount of time it was used for.

Question 3- Three reasons that the survey and actual electric bill would not be the same would be that the company could use a different method than ten cents per kilowatt hour, we may not have surveyed every appliance or device in the household, and that we just had estimates of the time we used each appliance or device for. If the company uses a different way to charge people for their electricity than ten cents per hour than the total of the cost would be different from our survey. If we did not record all the electric appliances and devices in our dwelling than the amount of energy and power would be different from the actual electric bill. Lastly, the hours we used were really just estimates and we don’t know exactly how long we use each appliance in our house so the energy and cost total would be different on our survey and on an actual electricity bill.

10% Reduction Plan

In my reduction plan I took seven hours off of watching television and reduced it from 28 hours to 21 hours. Instead of watching television I will read to fill that time and to save energy by not using an electric appliance.

For my computer I took seven hours of reducing it from 42 to 35. During this time I will play outside or something that does not have any involvement with electricity so that it will keep our bill lower.

My washing machine was originally used for 14 hours a week but in my reduction plan I would like to reduce it to 7 hours saving seven hours. Our family could put larger loads in the washing machine to save energy and money.

The clothes dryer was also originally used for 14 hours a week so I also reduced it to 7 hours a week in my reduction plan and I can achieve by doing the same thing as I did for the washing machine by using larger loads at once.

The microwave was used for 21 hours per week in my original plan and I wanted reduce that to 14 hours per week, saving 7 hours and a lot of energy. To do this I could use the stove, which is a non-electrical appliance, to heat my food instead of the microwave or oven.

The next appliance I reduced was my plan and that didn’t use nearly as much energy as the microwave, but is still reduced it by seven hours.

The refrigerator was the next appliance I reduced by 7 hours. I do not think that there is any other useful way to keep your food cold so I guess the only way I could reduce is by closing the refrigerator when I am not using it.

The kitchen lights used the most energy and cosseted the most in my original plan so I reduced this appliance by 14 hours. The lights in the kitchen are on a lot because that is where my family spends the most time and there are a lot of lights in the kitchen so they give off a lot of energy.

The bedroom lights were my next reduced appliance. They are on a lot because we forget to turn them off a lot and I also spend a lot of time in my room too.

My phone charger, some would say how r you going to reduce that, but I figured that if I just forget one night to charge it than it still has a lot of charge on it that is necessary for your next day. So by only using the phone charger every other night you could save a lot of energy and still have the necessary charge on your phone.

In my house I do not drink a lot of coffee personally, but my parents do and I could save energy by asking them to not drink as much as normal so that they can save money on the electric bill.

The last appliance I reduced was the ceiling fan. We use the ceiling fan a lot because of hot temperatures, after sports, or anything along those lines. During all that time we don’t really need it so by not using it in the winter or after sports we could save a lot of energy.